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Location and the Return to Education

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People with more education typically command higher pay for their labor relative to those with lower levels of education. This wage differential is often referred to as "the return to education." Implicit in this language is the notion that education constitutes an "investment" in human capital.

The relationship between education and wages is a subject of intense study in the field of labor economics. Researchers are particularly interested in determining whether causal factors underlie this statistical correlation. For example, do advanced education programs make people more productive, so that higher wages are the by-product of higher productivity? Or do these programs naturally attract the most productive members of society, so that education per se is inconsequential for determining wages?

Such questions could be answered in a straightforward manner if economists could perform controlled experiments. For better or worse, such experiments are not feasible. You would have to have two identical people, send only one to college, and record the results. Instead, economists try to compare people who share many common characteristics except education. Most studies find that, after controlling for other characteristics, each additional year of education increases hourly wages by 8 to 13 percent.[1]

A complication of such estimates is that the return to investment in human capital is realized in a specific labor market, usually a local labor market. Investment in human capital is not like investment in the stock market, where a share of General Electric stock is worth the same in New York as it is in St. Louis.

One study finds that the return to a college education is systematically lower in nicer, more-expensive cities.[2] The intuition is simple: When a city has attractive amenities, people are willing to "pay" for them in the form of high property prices. However, people with low levels of education, and thus low lifetime income, find such high property prices a greater deterrent to living in these cities than individuals with high levels of education. The better-educated might even accept a lower salary than they would in less-attractive cities. In contrast, the less-educated might have to be paid more than they would in less-attractive cities to compensate for the higher cost of living.

The return to a college education varies widely across U.S. cities.

As a result, the discrepancy in pay attributed to education is smaller in high-cost than low-cost cities. The better-educated are not at a disadvantage when they choose to

Local Variation in the Return to a College Degree (%)

City	2000	1990	1980
Atlanta	74	64	62
Baltimore	60	55	57
Boston	71	55	52
Chicago	54	48	48
Cleveland	61	56	48
Dallas	85	69	63
Denver	60	56	50
Detroit	60	52	49
Houston	84	72	60
Los Angeles	64	54	55
Minneapolis	58	47	48
New York	64	47	57
Philadelphia	62	55	56
Phoenix	66	68	49
Pittsburgh	70	70	49
San Diego	78	58	63
San Francisco	77	46	41
Seattle	50	39	40
St. Louis	55	50	55
Tampa	73	63	55
Washington, DC	73	54	58

NOTE: The numbers in the table represent the return to a college degree (relative to a high school diploma only) rather than the return to one year of schooling.

SOURCE: Adapted from Black, Kolesnikova, and Taylor (2009).

locate in a nicer, more-expensive city, however. They are simply "paying" for access to the city's amenities by accepting a lower monetary return to their education.

The table shows that the return to a college education (relative to a high school education only) for white men living in a major U.S. city varies widely across cities. In 2000, in Dallas, white men with a college degree earned as much as 85 percent more than similar white men with a high school diploma, but in Seattle they earned only 50 percent more (but enjoyed all the amenities Seattle offers). ■

[1] For an excellent overview of existing studies, see Card, David. "The Causal Effect of Education on Earnings," in Orley Ashenfelter and David Card, eds., *Handbook of Labor Economics*. Vol. 3A. Amsterdam: Elsevier Science, 1999, pp. 1801-63.

[2] Black, Dan; Kolesnikova, Natalia and Taylor, Lowell. "Earnings Functions When Wages and Prices Vary by Location." *Journal of Labor Economics*, January 2009, *27*(1), pp. 21-47.

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